

REMARKS

Claims 1-36 are now pending in the application. Claims 1 and 22-24 have been amended. Claims 25-36 have been added with this amendment. The amendments to the specification, claims and the new claims are believed to be wholly supported within the specification and claims as originally filed. The amendments to the paragraphs on pages 15 and 18 are presented to correct obvious typographical errors. The amendment to the paragraph bridging pages 19 and 20 is presented to incorporate the amount of the second plasticizer (C) from originally filed claim 14. Support for the amendment to claim 1 defining the film thickness is found in the specification at page 3, lines 22-23. Support for the amendment to claim 22 is found on page 22, lines 13-15. Support for new claims 25, 28 and 29 is found in the specification at page 5, lines 16-17. Support for new claims 26 and 30 is found in the specification at page 5, lines 25 - page 7, line 22; page 7, line 23 - page 13, line 20; page 13, lines 22-24; page 13, lines 26-27; page 16, lines 1-3; page 16, line 23 - page 18, line 5 and page 18, line 19 - page 19, line 16. Support for new claims 27, 31 is found in the specification at page 18, lines 19-22. Support for new claims 32-34 claims are found in the specification at page 14, lines 3-13. Support for new claim 35 is found in originally filed claim 10 and in the specification at page 18, lines 19-22. Support for new claim 36 is found in the specification on page 19, lines 4-8.

Information Disclosure Statement

Applicants filed an information disclosure statement on June 20, 2003. The information disclosure statement was filed three days before the mailing date of the present office action. Applicants wish to call the Examiner's attention to the information disclosure statement and request that the Examiner consider the references cited and return an initialed copy of the PTO 1449 forms to Applicants.

§112, second paragraph Rejections

Claims 1-24 stand rejected under 35 USC §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention. The Examiner has objected to the use of the term "at

least" in claims 1-3 and throughout the remaining claims. The Examiner has objected to the use of the term "a major amount" in claim 1. Claims 23 and 24 have been objected to as being dependent from the wrong claim.

The term "at least one" is used in the claims to indicate that one or more of the listed claim item is present. The term is used extensively in patent claims. The Examiner has considered the term redundant in view of the transition term "comprising." The term "at least one" together with the transition term "comprising" have been used in many patent claims and are present in many issued U.S. patents. The terms are not redundant because the terms address the breadth of the claims in different ways. "Comprising" is a transition term that affects the scope of the whole claim. The term "at least one" modifies a single element indicating that one or more of the element are present. Accordingly, Applicants submit that the use of "at least one" with the transition term "comprising" does not make their claims indefinite and is not redundant. Applicants request withdrawal of the this rejection.

The term "a major amount" has been used extensively in patent claims. The term means that the material is present in an amount greater than 50%. The term is well recognized. Further, Applicants have reworded claim 1 to indicate that vinyl halide polymer (A) comprises a major amount (i.e. greater than 50%) of the polymers of the film. Applicants submit that the use of the term "a major amount" is not vague and indefinite. Applicants therefore request withdrawal of this rejection.

Claims 23 and 24 have been amended to make them properly depend from claim 22. This amendment corrects an obvious typographical error. Applicants submit that in view of the amendment, this rejection is obviated.

§102 Rejection Over Kushida et al

Claims 1-14 stand rejected under 35 USC §102(b) as being anticipated by Kushida et al (U.S. Patent 5,344,864). The Examiner stated that Kushida et al teach a PVC thermoplastic elastomer composition which comprises 100 parts by weight of a vinyl chloride resin, from 20 to 300 parts by weight of a nitrile rubber, from 25 to 200 parts by weight of a plasticizer, from 10 to 200 parts by weight of a filler and a curing agent for the

rubber. The Examiner is of the opinion that Kushida et al teach that the vinyl chloride resin which contains a plasticizer is used in applications such as films, sheets, etc. The Examiner is also of the opinion that Table 1 shows an elongation of the composite being greater than 50%.

Kushida et al relate to a thermoplastic elastomer composition. The composition is taught to have a high tensile strength and low compression set. Kushida et al teach that the composition is useful as a substitute for vulcanized rubber. It is also described as being useful in producing molded products. The composition includes a vinyl chloride resin, a nitrile rubber (NBR), and a plasticizer. Kushida et al teach that vinyl chloride resins containing a plasticizer provide soft molded products with suitable elasticity and excellent flexibility. Kushida et al teach that the vinyl chloride resin with a plasticizer may be used in many applications as a resin material for various molded products such as films, sheets, tubes or containers (column 1, lines 26-32). However, in the next paragraph, Kushida et al teach that molded products made from plasticized vinyl chloride resins have problems. Kushida et al state

However, molded products of a plasticized vinyl chloride resin have difficulties such that they have strong creep tendency and large compression set and thus are poor in restorability when the compression force has been removed . . . Therefore, it's use for the applications where a small compression set is required, such as packing, is limited. (column 1, lines 33-45)

Kushida et al teach that plasticized vinyl chloride resins are useful for making molded products but these products have problems with strong creep tendency and large compression set. Kushida et al solve the problem of plasticized vinyl chloride resins by adding a nitrile rubber to the resins.

As presently claimed, Applicants' claim 1 is directed to a vinyl halide film which comprises (A) a vinyl halide resin, (B) a non-halogenated polymeric plasticizer and (C) a second plasticizer, wherein the vinyl halide polymer (A) comprises a major amount of the polymers of the film and wherein the film has an elongation of at least 50% and a thickness from about 1 to about 20 mils. Kushida et al do not teach a vinyl halide film. Kushida et al teach the preparation of molded products such as those used in glass channel products.

Kushida et al do not teach or suggest preparing a vinyl halide film from their polyvinyl chloride elastomeric compositions. Moreover, there is no teaching in Kushida et al to a film having a thickness from about 1 to about 20 mils. Therefore, Applicants submit that their claims are novel over Kushida et al.

Furthermore, Applicants submit that claims 1-14 are not rendered obvious by Kushida et al. As already discussed above, Kushida et al teach molded articles that have a good compression set. Kushida et al teach that plasticized vinyl chloride resins have difficulties with strong creep tendencies and large compression sets. As indicated by Kushida et al, the plasticized vinyl halide resins are not adequate substitutes for vulcanized rubber in molded products. Kushida et al do not teach or suggest a film. Kushida et al teach a molded product. Further, Kushida et al contain no motivation for a skilled person to make a film from the composition described in Kushida et al. As illustrated in the figures and their teachings, Kushida et al seek to make molded products that hold their molded structure after curing. Kushida et al provide no motivation for one skilled in the art to make a film from the compositions described by Kushida et al. Accordingly, Applicants submit that their claims are not rendered obvious by the teachings of Kushida et al.

With this response, Applicants submitted new claims 25-36. Claims 25-28, 32-33 and 35-36 are directed to films and are discussed here. Claims 29-31 and 34 are directed to adhesive articles and are discussed in the section addressing the rejection of claims 15-21.

New claims 25 and 28 require that the plasticizer (B) is liquid. Kushida et al use a nitrile rubber that is in block form or in powder form (column 6, lines 67-68). There is no teaching or suggestion within Kushida et al to use a liquid plasticizer as required by Applicants' claims. Therefore, Applicants submit claims 25 and 28 are patentable over Kushida et al.

Claim 26 requires that the plasticizer (B) is an ethylene-alpha-olefin rubber, a block copolymer of a vinyl aromatic monomer and a conjugated diene or functionalized derivative thereof, a block copolymer of a polyalkylene terephthalate and a polyalkylene ether, a polyether or polyester block polyamide elastomer, a copolymer or a terpolymer of ethylene or propylene and a functional monomer selected from alkyl acrylate, acrylic acid, alkyl

acrylic acid, and combinations of two or more thereof, an ethylene acid copolymer, a homopolymer or copolymer of vinyl acetate, an ethylene vinyl acrylate terpolymer, a terpolymer of an olefin, a comonomer selected from acrylic acids or esters, methacrylic acids and esters and vinyl acetates, and carbon monoxide, or mixtures of two or more thereof. Kushida et al teach the addition of nitrile rubbers to polyvinyl chloride compositions. There is no teaching or suggestion of these plasticizers in Kushida et al. Accordingly, Applicants submit that claim 26 is patentable over Kushida et al.

Claim 27 requires that the plasticizer (B) is a terpolymer of (a) an olefin, (b) a comonomer selected from acrylic acids or esters, methacrylic acids or esters, and vinyl acetates, and (c) carbon monoxide. Kushida et al do not teach or suggest this terpolymer. As discussed above, Kushida et al is directed to the use of nitrile rubbers. Accordingly, Applicants submit that claim 27 is patentable over Kushida et al.

New claim 35 is directed to a vinyl halide film comprising (A) at least one polyvinyl chloride, (B) at least one terpolymer of (a) an olefin, (b) a comonomer selected from acrylic acids or esters, methacrylic acids or esters, and vinyl acetates, and (c) carbon monoxide, and (C) at least one second plasticizer, wherein the film has an elongation of at least about 50%. As discussed above, Kushida et al do not teach or suggest the film or the terpolymer of claim 35. Therefore, Applicants submit that claim 35 is patentable over Kushida et al.

Claim 36 is dependent from claim 35 and requires that the plasticizer (B) is a terpolymer of ethylene, an acrylic ester or vinyl acetate and carbon monoxide. Kushida et al do not teach or suggest this terpolymer. Accordingly, Applicants submit that claim 36 is patentable over Kushida et al.

Claims 32 and 33 require that the plasticizer (B) further comprises a linear low density polyethylene or a low density polyethylene. Kushida et al do not teach or suggest the use of a non-halogenated polymeric plasticizer together with a linear low density polyethylene or a low density polyethylene as required by Applicants' claims. Accordingly, Applicants submit claims 32 and 33 are patentable over Kushida et al.

§102 Rejection Over Breton et al

Claims 22-24 stand rejected under 35 USC §102(a) as being anticipated by Breton et al (U.S. Patent 6,054,524). The Examiner has stated that Breton et al describe a plastisol composition which comprises polyvinyl chloride, an optional primary plasticizer, a stabilizer, a paraffinic or aliphatic solvent or secondary plasticizer and powdered crosslinked nitrile rubber.

As presently amended, Applicants' claim 22 is directed to a plastisol composition which contains (A) a vinyl halide polymer, (B) a non-halogenated polymeric plasticizer, (C) a second plasticizer, and (D) an aromatic solvent. Breton et al teach that the plastisol compositions have a high rubber content. Breton et al describe the problems associated with adding rubbers to plastisols and the resulting increase in viscosity of the combination (column 1, lines 31-42). As taught by Breton et al

This invention is based upon the unexpected discovery that aliphatic solvents act to reduce the viscosity of the cross linked nitrile rubber containing plastisol compositions. (column 1, lines 62-64)

Breton et al do not teach the use of an aromatic solvent in plastisol compositions. Accordingly, Applicants submit that claims 22-24 are not anticipated by Breton et al.

Furthermore, Applicants submit that there are no teachings in Breton et al that would lead one of ordinary skill in the art to modify Breton et al to use an aromatic solvent. As indicated in the quote above, Breton et al teach that the aliphatic solvent unexpectedly solved the problem of viscosity increase of plastisols with the addition of rubber. There is no motivation for one skilled in the art to switch from an aliphatic solvent to an aromatic solvent. Accordingly, Applicants submit that claims 22-24 are also not rendered obvious by Breton et al.

§103 Rejection Over Kushida et al/Hager et al

Claims 15-21 stand rejected under 35 USC §103 as being obvious over Kushida et al either alone or further in view of Hager et al (U.S. Patent 5,198,301). The Examiner has

indicated that although Kushida et al lack the express teaching of forming an adhesive based article on a plasticized polyvinyl chloride film, it is believed that forming an adhesive tape based on a plasticized polyvinyl chloride substance is old and well known. Alternatively, the Examiner has noted that Hager's invention is directed to highly flexible and conformable base films. The Examiner is of the opinion that in view of the teachings of Hager et al, it is known that the plasticized polyvinyl chloride films are used in numerous applications such as adhesive tapes, and it would be obvious for one skilled in the art to use Kushida's plasticized PVC film as a backing to form an adhesive film. The Examiner has suggested that the motivation to make the article comes from the desire to obtain a highly flexible adhesive tape.

Claims 15-21 are directed to adhesive articles comprising a pressure sensitive adhesive layer having a first and second surface and a vinyl halide film comprising (A) a vinyl halide polymer, (B) a non-halogenated polymeric plasticizer and (C) a second plasticizer wherein the film has an elongation of at least about 50%. This film is adhered to the first surface of the adhesive layer. As described above, Kushida et al do not teach or suggest the use of their compositions in a film. Kushida et al teach that plasticized polyvinyl chloride films have creep tendencies and large compression sets. Kushida et al teach that the addition of a rubber provides a moldable product which is useful as an alternative to vulcanized rubber. Kushida et al contain no teaching or suggestion to the use of their compositions in a film. The only mention of film in Kushida et al is a general statement of the uses of a plasticized vinyl chloride resin. This general statement is followed by a discussion of the problems of plasticized vinyl chloride resins. The general statement does not provide motivation to use the Kushida et al compositions to make a film or make an adhesive article with that film and a pressure sensitive adhesive. Accordingly, Applicants submit that Kushida et al, alone, do not render their claims obvious.

Claims 15-21 are also rejected as obvious over Kushida et al in view of Hager et al. Hager et al relate to films which are made from ionomeric polymer resins with 2 to 40% by weight of filler. Hager et al teach that the ionomeric polymer resins are preferred for adhesive applications because the films remain in place once applied and the films contain no migrating plasticizers or leachable additives. Hager et al do not make up for the

previously described deficiencies of Kushida et al. Hager et al do not teach polyvinyl chloride films. Polyvinyl chloride resins are discussed in the background of Hager et al. Hager et al indicate that polyvinyl chloride films have been used in adhesive tapes but Hager et al do not contain any teachings that would lead one to try the Kushida et al vinyl chloride compositions in an adhesive article. In particular, Hager et al teach away from polyvinyl chloride films by teaching that ionomeric polymer resins can be used as an alternative to polyvinyl chloride films. There is no motivation or teaching within Hager et al that would lead one of skill in the art to make an adhesive article with a vinyl chloride film made from the Kushida et al composition. Further, there is no reasonable expectation of success for making that combination. Hager et al teach the shortcomings of polyvinyl chloride films and the benefits of using an ionomeric polymer resin to replace those polyvinyl chloride films. A person of skill in the art upon reading Hager et al would not have a reasonable expectation of success for the use of the Kushida et al compositions to make a film and use it in an adhesive article. Accordingly, Applicants submit that claims 15-21 are not rendered obvious by the combination of Kushida et al in view of Hager et al.

New claims 29-31 and 34 are directed to adhesive articles. New claim 29 requires that the plasticizer (B) of claim 15 is liquid. As discussed above, Kushida et al do not teach or suggest using a liquid plasticizer as claimed by Applicants. Kushida et al teach using a nitrile rubber which is in block form or powder form. Accordingly, Applicants submit that claim 29 is patentable over Kushida et al.

Claim 30 requires that the plasticizer (B) is an ethylene-alpha-olefin rubber, a block copolymer of a vinyl aromatic monomer and a conjugated diene or functionalized derivative thereof, a block copolymer of a polyalkylene terephthalate and a polyalkylene ether, a polyether or polyester block polyamide elastomer, a copolymer or a terpolymer of ethylene or propylene and a functional monomer selected from alkyl acrylate, acrylic acid, alkyl acrylic acid, and combinations of two or more thereof, an ethylene acid copolymer, a homopolymer or copolymer of vinyl acetate, an ethylene vinyl acrylate terpolymer, a

terpolymer of an olefin, a comonomer selected from acrylic acids or esters, methacrylic acids and esters and vinyl acetates, and carbon monoxide, or mixtures of two or more thereof. Kushida et al do not teach or suggest these plasticizers. Accordingly, Applicants submit that claim 30 is patentable over Kushida et al.

Claim 31 is dependent from claim 15 and requires that the plasticizer (B) is a terpolymer of (a) an olefin, (b) a comonomer selected from acrylic acids or esters, methacrylic acid or esters, and vinyl acetates, and (c) carbon monoxide. Kushida et al do not teach or suggest the terpolymer required by claim 31. Accordingly, Applicants submit that claim 31 is patentable over Kushida et al.

Claim 34 requires that plasticizer (B) further comprises a linear low density polyethylene or a low density polyethylene. Kushida et al do not teach the combination of a linear low density polyethylene or low density polyethylene with a non-halogenated polymeric plasticizer as required by Applicants' claims. Since Kushida et al do not teach or suggest this combination, Applicants submit that claim 34 is patentable over Kushida et al.

CONCLUSION

In view of the above comments, Applicants request the Examiner to withdraw the rejections and allow the claims.

In the event any issues remain in the prosecution of this application, Applicants request that the Examiner call the undersigned attorney to expedite allowance of the claims. Please charge any additional claims fees to Deposit Account #18-0988. If any additional fees are required for the filing of these papers, Applicants request the Commissioner to charge those fees to Deposit Account #18-0988.

Respectfully submitted,

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